# INFLUENCE OF AGRI-PALOOZA ON PARTICIPANT PERCEPTIONS OF AGRICULTURE

A Thesis

by

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## ABSTRACT

American citizens have little understanding of the value of agriculture and its vital role in our society. Additionally, there has been an increase in public interest and concern about food safety, animal welfare, and the environmental impacts of agriculture. As a means to better educate the public about modern farming practices, on-farm educational events have been established. These events aim to increase consumer trust in and positive impressions of agriculture as a whole. Our descriptive study was completed to quantify the influence of Agri-Palooza, an on-farm dairy educational event, on participant perceptions of agriculture. Retrospective pre- and post-tests were used to measure participants' level of trust in farmers. Participants' trust was evaluated regarding the role of farmers in food safety, animal welfare, and environmental stewardship. A paper exit survey yielded 137 responses used in data analysis.

Quantitative results indicated a statistically significant increase in participants' post-trust scores in relation to their pre-trust scores. Furthermore, a positive correlation was found between the reported number of prior visits to a dairy farm with pre-trust scores, and a negative correlation existed between the reported number of prior visits to a dairy farm with change in post-trust scores. Eighty-seven percent of participants strongly agreed that Agri-Palooza was a good way to connect the public with modern food production. Additionally, 75% of participants strongly agreed that their general impression about modern dairy farming improved as a result of attending. Findings revealed that Agri-Palooza was influential at increasing participants' positive

perceptions of the dairy industry. Therefore, it was recommended that farmers, as well as agricultural extension services, consider the role of on-farm educational events in educating and connecting the public with modern agriculture.

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## NOMENCLATURE

| | |
|---|---|
| BOTF | Breakfast on The Farm |
| GMO | Genetically Modified Organism |
| MSUE | Michigan State University Extension |
| SLT | Social Learning Theory |

## DEFINITIONS OF TERMS

**Modern agriculture-** refers to a range of farming systems that use current production methods and technologies that predominate in agriculture production today in the U.S.

**On-farm educational event-** any event taking place on the site of production agriculture, where the main goal is to educate attendees, and the instructors or event organizers are agricultural educators, state extension service members, or knowledgeable industry professionals (See Chapter 3, p. 17 for additional details)

**Perception-** the way you think about or understand someone or something ("Perception," n.d.)

**Trust-** perception of confidence in an exchange partner's reliability and integrity (Morgan and Hunt, 1994)

# 1. INTRODUCTION

## 1.1 The public's relationship with agriculture

### 1.1.1 Background

Typical U.S. citizens have little understanding of the value agriculture has on our society (Richardson, 1990), and many people lack basic knowledge about how and where their food is produced (Frick, 1990). Furthermore, Boleman and Burrell (2003) found that when youth in 2001 were asked if agriculture is a part of their everyday life, less than 17% agreed. This disconnect from the reality of agriculture's vital role to society can be partially explained by an increase in the U.S. population relocating to urban areas and away from rural communities (Reidel, Wilson, Flowers, & Moore, 2007). However, even though the gap between Americans and agriculture is growing, there has been an increase in consumer interest and concern about food safety, animal welfare, and the environmental impacts of agriculture (Abdalla & Lawton, 2006; Cowan, 2010; The Center for Food Integrity, 2015; The NPD Group, 2013; U.S. Farmers & Ranchers Alliance, 2011).

### 1.1.2 Public concern for food safety

The Center for Food Integrity (2015) found that consumers reported food safety and the impact of food on health as the two most important issues when asked to rank six different agricultural issues (i.e., food safety, impact of food on health, environmental impact, labor and human human rights, animal well-being, and business ethics). In the past ten years, the controversy over genetically-modified organisms (GMO's) has

become a topic of food safety concern for consumers (The NPD Group, 2013). According to The NPD Group's *Food Safety Monitor,* which annually tracks trends in food safety issues, "less than 10 percent of adults were "very" or "extremely" concerned about GMO's in 2002, but now [2013] that concern level is at more than 20 percent of adults, and has steadily increased" (The NPD Group, 2013). While the U.S. Food and Drug Administration (2015) has publically clarified that genetically-modified foods are regulated and just as safe as non-GMO foods, consumers are still driving a demand for non-GMO products in the marketplace (Roseboro, 2015; Greene, 2013). According to the Natural Marketing Institute, the number of consumers using non-GMO products increased from 37% to 59% from 2012 to 2014 (Roseboro, 2015). Growing consumer demand for non-GMO foods can also be seen in the continuous growth of organic food sales in the U.S. In 2012, organic food sales reached more than $28 billion, an almost 10% increase in sales than the year before (Greene, 2013).

Marketing and promotion of organic foods have played a role in influencing consumer perceptions about food safety. The USDA's Agricultural Marketing Service found that 65% of consumers perceived foods carrying the USDA certified organic label to be healthier than foods without the label. Additionally, 70% of consumers perceived foods with the USDA certified organic label to be safer than non-USDA certified organic foods, and 46% perceived them to be more nutritious (Stochlic, 2005).

### 1.1.3 Public concern for animal welfare

Consumers are also expressing concern for the welfare of animals used in production (Lusk, Norwood, & Prickett, 2007). A large portion of the public has a

negative view of the traditional style cages used to house laying hens. Lusk et al. (2007) found that 41% of 1,001 participants in a nationwide telephone survey "disagreed" or "strongly disagreed" with the statement: Housing chickens in cages is humane. American consumers have also expressed criticism toward the use of gestation stalls used in swine production. Due to public pressure to eliminate such practices, California and Michigan have passed legislation permanently banning the use of traditional cages in poultry egg production (Lusk, 2010; Rodriguez, 2011). Additionally, Arizona, California, Colorado, Florida, Maine, Michigan, and Oregon have each passed legislation to phase out the use of gestation stalls in swine production (Ryan, 2010).

Various certification programs have been developed in response to consumer demand for labeling of food products from animals raised humanely and with less restrictive housing systems. Organizations, such as American Welfare Approved and American Certified Humane, have created their own standards for ethical animal production (Weiss & Sullins, n.d.). However, the USDA does not regulate these certification programs. Farmers must comply with the organization's species-specific criteria to gain certification. As a result of the growing consumer demand for less restrictive animal housing systems, several major U.S. restaurant chains have announced plans to use food products from farms with less restrictive housing systems. Restaurants like Starbucks, McDonalds, and Burger King have agreed to use eggs from cage free operations and pork produced from open sow housing facilities (Beecher, 2015). Furthermore, major pork producers Cargill, Hormel, and Smithfield have each pledged

to phase out the use of gestation stalls in their own production facilities ("Second largest," 2012).

### 1.1.4 Public concern for environmental impacts of agriculture

The impact of agriculture, especially large-scale farms, on the environment is another topic that has generated a lot of interest (Ikerd, 2013). Thomas, Howell, Wang, and Albrecht (1996) found that a common public concern was regarding the role that fertilizers and other chemicals play in air and water pollution. They also found that manure management, and its role in air and water quality, is another a major source of concern (Thomas et al., 1996). Additionally, U.S. Farmers & Ranchers Alliance (2011) conducted a nationwide survey where participants were asked to identify the top five agricultural topics they wanted to learn more about. Among the most common top five answers were, "how chemicals are used in farming/growing" and "how pesticides are used in farming/ranching" (U.S. Farmers & Ranchers Alliance, 2011).

### 1.1.5 Public's impact on agriculture

American consumers have the power to impact agriculture with their ability to create demand in the market place and through voting behavior (Jensen, 2006; Ryan, 2010). Unfortunately, if the public has anti-agriculture views or is uneducated about modern farming practices, then the consequences that can affect the agriculture industry, as a result of public pressure, can be significant and not always in favor of the industry or farmers (Hamlin, 1962; Sumner, Rosen-Molina, Matthews, Mench, & Richter, 2008).

Hamlin (1962) notes that voters who are uneducated about modern farming practices elect representatives who create farm policies, then voters could be responsible

for the collapse of agriculture. Growing consumer interest in animal welfare, food safety, and environmental impacts of agriculture provide agriculture with the opportunity to address such public concerns. Abdalla and Lawton (2006) note it is crucial to address the public's concerns in attempt to establish, at least, a neutral impression of agriculture, as this is necessary for agriculture wide development.

### 1.2 On-farm educational events

One method of connecting the non-farming public to modern agriculture is through on-farm educational events and tours. On-farm dairy educational events are the most prevalent in the literature. These events invite the public to visit a modern dairy farm to learn more about how and where milk and other dairy products are produced. Events often include a tour of the farm and milking parlor, sampling of dairy products, and educational activities and exhibits. Several studies on the effectiveness of these events found them to be successful at influencing participants' positive impressions of the dairy industry, as well as, participant trust in dairy farmers (Ferris, Cullens, Thelen, Ross, Thelen, Dunckel, and Durst, 2011; Ferris, Thelen, and Dunckel, 2013; Ferris, Thelen, & Kuschel, 2014; Timms, Bently, and Kregel, 2015).

### 1.3 Agri-Palooza

Our study aimed to describe the influence of on-farm educational events on participant perceptions of agriculture. Agri-Palooza was a free, one-day, educational event hosted by the Wyoming County Chamber of Commerce, the Wyoming County Farm Bureau, and more than 100 agribusiness sponsors in Wyoming County New York. The fifth annual event invited the public to spend a day touring a working dairy farm and

participate in a variety of educational activities related to the agriculture found in the New York State area. Educating and connecting the public with modern agriculture was the goal of this event ("Agri-Palooza!", 2015). Exhibits and activities were designed for people of all ages. Participants were offered a guided tour of the dairy farm that included the milking parlor, calf housing, maternity barn, manure lagoon, and the freestall cow barn. There was a farmer's market, animal and farm equipment displays, meet and greets with farmers, and hands-on activities for kids. All dairy tour guides and event staff were farmers or knowledgeable agriculture professionals to help facilitate the event's mission of agriculture education. The 2015 Agri-Palooza was held at Broughton Farms, LLC, a large-scale, modern dairy farm with about 4,000 people attending.

**1.4 Purpose and objectives**

The purpose of our study was to describe the influence of Agri-Palooza on participant perceptions about dairy farms and farmers, as well as, other New York agriculture industries. The study was designed to describe Agri-Palooza's impact on participants' level of trust regarding to the role farmers play in food safety, animal welfare, and environmental stewardship. The research was guided by five objectives:

1. Determine participant levels of trust in farmers before participating in Agri-Palooza.
2. Determine participant levels of trust in farmers after participating in Agri-Palooza.
3. Compare participant levels of trust in farmers before and after participating in Agri-Palooza.

4. Determine if there were significant relationships between selected demographics and changes in levels of trust.
5. Describe the general impact of Agri-Palooza on participants through participant input.

**1.5 Theoretical framework**

The theoretical base of this study draws on Bandura's (1977) social learning theory (SLT). SLT posits, among other things, that learning is a social process that occurs through direct instruction or observation. SLT also explains how modeling stimuli can be classified as either a live model, verbal instruction, or symbolic modeling. At Agri-Palooza, participants received direct instruction from the knowledgeable staff, and participants were observing the educational environment of the farm. Agri-Palooza utilized many live models, as farmers and industry professionals demonstrated agricultural practices such as milking cows, harvesting honey, and farm equipment functions. These event staff also provided verbal instruction to visitors about modern agricultural practices and answered any questions participants posed.

These stimuli, also known as environmental factors, are part of Bandura's model of reciprocal determinism. Bandura's model of reciprocal determinism explains the determinants of human behavior. A person's behavior both influences and is influenced by environmental, cognitive, and behavioral factors (Figure 1) (Bandura, 1978). Since on-farm educational events are able to provide an environment where consumers see for themselves how farmers house, manage, and feed animals and learn about practices

farmers use to safe-guard milk and the environment, consumers may modify their impressions and be more supportive of agriculture and buy more agricultural products.

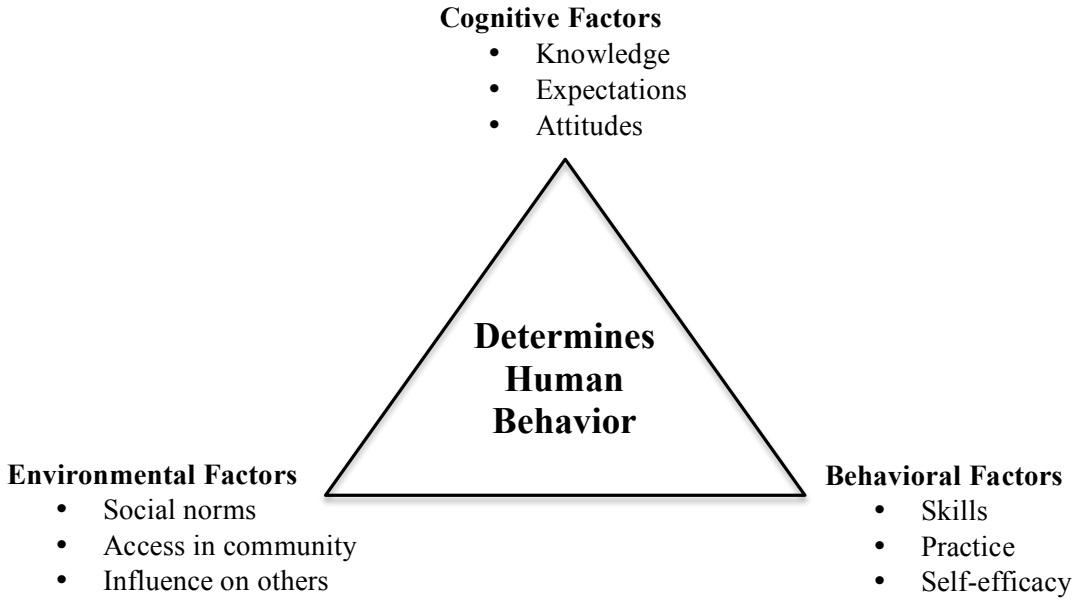


*Figure 1.* Model of reciprocal determinism. Reprinted with permission from ReCAPP (2007).

## 1.6 Importance of study

There are many reasons why agriculture needs to better connect the public with modern agriculture and attempt to influence public perceptions. Previous research about on-farm educational events found that they were successful at executing such a goal (Ferris et al., 2011; Ferris et al., 2014; Timms et al., 2015). Taking into consideration Bandura's SLT and previous research about on-farm educational events, it is deduced that Agri-Palooza should be successful at connecting the public with modern agriculture and influencing participants' impressions of agriculture. Our study seeks to describe how participating in Agri-Palooza increased participants' level of trust regarding the role farmers play in food safety, animal welfare, and environmental stewardship. The current research furthers the investigation on the use of such events held by agricultural organizations and extension services to better promote agriculture.

# 2. REVIEW OF LITERATURE

## 2.1 Perceptions of agriculture

Merriam-Webster defines perception as “the way you think about or understand someone or something” ("Perception," n.d.). Perceptions are mental impressions that are influenced by a multitude of factors and can carry a positive, negative, or neutral connotation. Furthermore, “the experience, knowledge, socioeconomic characteristics, attitudes, and temporal attributes of an individual may influence their perception of agriculture” (Wachenheim & Rathge, 2000, p. 5).

Much of the literature regarding societal perceptions of agriculture explores the factors that influence perceptions and the types of people who have similar or differing perceptions. Researchers have found that an individual’s social and physical distance from agriculture plays a role in shaping their perceptions about agriculture. Examples of such variables include one’s exposure to livestock and place of residence. Wachenheim and Rathge (2000) found that study participants who worked or knew someone who worked on a livestock farm were less likely to agree that environmental issues exist associated with farming than those who did not. Furthermore, researchers found that participants who worked with livestock were more supportive of the current role of agriculture in the environment than those who did not work with livestock (Wachenheim & Rathge). Ferris et al. (2011) found that participants who identified as living not near a farm had lower general impressions about dairy farms and farmers than those who reported living near farms.

Literature also suggests that agricultural literacy, or knowledge and understanding of agriculture, is a factor in shaping one's perceptions. Wright, Stewart, and Birkenholz (1994) found a positive correlation between an individual's agricultural literacy and positive perceptions of agriculture. Wagler et al. (2008) supported these findings. Participation in a swine education program increased fifth grade students' positive perceptions of the pork industry (Wagler et al., 2008). Additionally, Brown (1991) reported a positive change in knowledge and perceptions about agriculture after middle school students participated in six to 18 weeks of agriculture education curriculum.

**2.2 Agricultural organizations and educational programs**

Consumers have taken more interest in the production practices associated with their food, and whether or not they consider them to be socially responsible, ethical, and environmentally friendly (Wimberley et al., 2003). Furthermore, consumer's knowledge and understanding of food production and agriculture are directly related to their food purchasing behaviors, which in turn effect the local and national economies (Stenholm & Waggoner, 1992). Knowing this, and that knowledge and attitudes are both cognitive factors that influence human behavior (Bandura, 1978) and perceptions, many agricultural organizations have recognized the need to better educate consumers and increase consumer trust in the food products they produce. To do so, many agricultural businesses and organizations have created educational campaigns and programs for the public.

One example of this is the Southwest Dairy Farmers mobile dairy classroom. Trained instructors bring a mobile milking parlor and a live cow to schools, festivals, and other events to teach people about modern milking practices, modern environmental and food safety practices, and the nutritional benefits of dairy foods (Southwest Dairy Farmers, n.d.) Southwest Dairy Farmers owns five of the mobile dairy classrooms and provide this outreach program to seven southwestern states. Research conducted on the effectiveness of this program found that "observing a live cow demonstration along with a discussion on dairy cattle feeding, handling, and distribution of milk and its nutritive value greatly improved the knowledge and understanding of students about the dairy industry" (Monk, Norwood, & Guthrie, 2000, p. 13).

The Southwest Dairy Farmers mobile dairy classroom is designed to be taught in a school or other public setting. If that event was found to be impactful, then it can be reasonably assumed that an educational event located on the site of production agriculture would also be impactful on participants' perceptions of agriculture. Moreover, due to the added environmental stimuli provided by the on-farm setting, educational events taking place on a farm could perhaps be even more effective.

**2.3 Literature about on-farm dairy educational events**

Much of the research conducted about on-farm educational events focuses on the dairy industry. The Iowa State University Extension Dairy Team partnered with other Iowa dairy associations to host two dairy open house events on the site of a working dairy farm (Timms et al., 2015). Both events were open to the general public and consisted of a tour of the dairy farm. The tour highlighted farmers' hygienic milking

practices, good animal welfare, and food safety protocols. The open house incorporated interactive learning displays and sampling of dairy products. All tours and exhibits were run by dairy farmers and other agriculture industry professionals. Timms et al. (2015) found that prior to the event, 76% of participants reported positive opinions and trust in dairy farms, and 65% reported extremely positive. As a result of attending the event, participants' opinions of modern dairy farms positively and significantly increased (Timms et al., 2015). In fact, 99% of participants reported they had extreme confidence and trust in dairy farms and the dairy industry after the event (Timms et al., 2015). Furthermore, the majority of participants reported that they found the dairy open house event to be worthwhile and would classify them as an "A" (Timms et al., 2015).

Similar findings have resulted from Michigan State University Extension's (MSUE) Breakfast on the Farm (BOTF) research. Since 2009 MSUE has held 28 BOTF events serving more than 60,860 adults and children with the goal of "connecting the public with modern agriculture and food production" (Ferris et al., 2011, Introduction section, para. 1). The BOTF events that were held on dairy farms included a tour of the farm (i.e., milking parlor, calving area, animal housing, veterinary care, feed center, manure storage), educational and fun activities for all ages, and a dairy inspired breakfast. Six years of continuing BOTF research has found that not only do these events increase participants' positive impressions of the dairy industry, but they also increase participants' trust in dairy farmers (Ferris et al., 2014; Ferris et al., 2011). Furthermore, participants reported increased purchases of dairy products as a result of attending BOTF, as well as, increased trust in milk as a safe food (Ferris et al., 2014).

Ferris et al., (2011) asked participants to rate their general impression before and after BOTF on four different statements to capture participants' perceptions of dairy farms and farmers. Participants were asked to rate the statements on a scale from one to five, where one represented "very negative" and five represented "very positive." Researchers found that respondents' prior impressions were greatest for the item "steps to safe-guard milk" and the worst for the item "housing provided for dairy animals" (Ferris et al., 2011). Researchers also found that the average before impression increased with the number of prior visits to a dairy farm, which suggests that those more familiar with dairy farms have better impressions (Ferris et al., 2011). Furthermore, the MSUE research found that where participants live and the number of times they have been to a dairy farm are variables that influence their impressions of dairy farms and farmers. Specifically, people who identified as living in an urban or rural area not near farms had similar and lower impressions than those who lived on or near farms or in a rural area near farms (Ferris et al., 2011). Those who reported living on a farm had the best impressions of all. Participants who reported fewer number of visits to a dairy farm prior to attending BOTF had the greatest change in their impressions of dairy farms and farmers (Ferris et al., 2011).

**2.4 Elements of effective on-farm dairy educational events**

Previous examples of effective on-farm dairy educational events share several key factors that may contribute to their success. First, both of these events took place outdoors on a farm. Participants at these events were able to learn in a place and space that is directly related to the content being taught. This is a characteristic of place-based

education. The Place-Based Education Evaluation Collaborative reports that place-based education "immerses students in local heritage, cultures, landscapes, opportunities, and experiences," and that this type of education "forges strong ties between local social and environmental organizations and their constituencies in the schools and community, which helps to improve quality of life and economic vitality" (Place-Based education, 2010, p. 2). In practical terms this means that participants of on-farm educational events are immersed in the culture of production agriculture, which can create strong ties between participants and local farmers, as well as, between participants and constituencies of agriculture.

Second, these events incorporated activities designed to stimulate all five senses of the participants (i.e., dairy foods tastings, farm tour, live demonstrations, hands-on activities). Appealing to multiple senses in education has been proven to increase learning and retention (Beard & Wilson, 2006, p. 157). Furthermore, Sigmon's (2014) study about the effectiveness of on-farm educational field trips found they increased knowledge and agricultural literacy of fourth grade students when the student's sense of sight, smell, touch, hear, and taste were involved in the learning process. Thus, when on-farm educational events are designed to appeal to the five senses of the participants, they increase the participant's learning ability and retention of the agricultural facts and concepts being taught.

Third, since these on-farm dairy educational events invite the public to see and experience an actual dairy farm, the events provide transparency. Transparency portrays openness, communication, and accountability (Ziehm, 2014). Many consumers like that

they can see who is producing their food and how it is being produced (The Center for Food Integrity, 2015;) Farmers can facilitate transparency through written communication, social media, and allowing on-farm visits. Ferris et al. (2014) found that on-farm transparency helps to build consumer trust. For all of these reasons, many agricultural operations have made plans to become more transparent to the public (Cattleman's Beef Board, 2015; In the U.S. poultry, 2013; Quinlan, 2013;). In contrast, not all farmers are eager to become transparent. Ziehm (2014) notes that many farmers recognize and fear the potential risks involved. Transparency means they will be susceptible to public criticism, which can lead to highly publicized controversies and backlash. Therefore, some farmers are hesitant to embrace transparency of their own operations to the public.

**2.5 Summary**

Research has documented that on-farm dairy educational events are effective at increasing participant knowledge and positive impressions of the dairy industry. Moreover, research has found that these events increase participant trust in the industry and dairy food purchases as a result of attending. However, these findings have been associated with only limited populations in the U.S. Therefore, our study aimed to describe the influence of an on-farm dairy educational event, Agri-Palooza, in the New York State area. It is based on MSUE's BOTF studies and examined through the lens of Bandura's SLT.

# 3. RESEARCH METHODS

## 3.1 Defining on-farm educational events

It should be noted that our study considers on-farm educational events to be those whose main objective is agriculture education, not profitability. The difference between on-farm agri-tourism and on-farm educational events can be distinguished by determining who organized the event. On-farm educational events are typically run by agriculture industry professionals, state extension services, or agriculture industry-supported organizations. Therefore, the author defines on-farm educational events as follows: any event taking place on the site of production agriculture, where the main goal is to educate attendees, and instructors or event organizers are agricultural educators, state extension service members, or knowledgeable industry professionals.

## 3.2 Defining trust

Trust has been studied by scholars across different disciplines and with different perspectives over the past several decades (Bhattacharya, Devinney, & Pillutla, 1998). While trust is viewed as a multidimensional term and cannot be predicted by a single item (Butler, 1991; Frewer et al. 1996; Bhattacharya et al., 1998), there is no unique definition that practitioners and scholars agree on. Therefore, this study defines trust based on Morgan and Hunt (1994). Trust is the perception of confidence in an exchange partner's reliability and integrity (Morgan and Hunt, 1994). Thus, participants' trust in farmers is their perception of confidence in farmers' reliability and integrity.

### 3.3 Defining modern agriculture

Modern agriculture for our study refers to a range of farming systems that use current production methods and technologies that predominate in agriculture production today in the U.S. Modern is different than traditional or historical methods or systems. Agri-Palooza took place at Broughton Farm Operations, LLC, a modern dairy farm. Broughton Farm Operations is considered modern agriculture, as the farm uses current milking technologies and management practices. The farm encompasses 5,000 acres of land and has 2,500 milking cows and 2,500 heifers and young stock. According to the 2012 USDA Census of Agriculture, 79% of New York dairy farmers had a herd size of less than 100 cows (USDA, 2012). Therefore, Broughton Farm Operations is considered a large-scale operation compared to the majority of dairy farms in New York state.

### 3.4 Population

Agri-Palooza 2015 took place in Silver Springs, New York, which is located in Wyoming County. Wyoming County is comprised of 592 square miles of land (U.S. Census Bureau, 2015), 46 miles southeast of Buffalo, New York (Google Maps, 2015b), and 56 miles southwest of Rochester, New York (Google Maps, 2015a). According to the 2014 U.S. Census, the population of Wyoming County is 41,188 people, of which 92% are white (U.S. Census Bureau, 2015).

Attendance at Agri-Palooza 2015 totaled about 4,000 people. It was estimated that there were approximately 1,000 families. Agri-Palooza did not collect extensive demographic information about its participants, but it was known that the majority of visitors from previous events were from the New York State area.

### 3.5 Sample

A self-selected, convenience sample was used. Krejcie and Morgan's (1970) sample size formula was used to produce the required minimum sample size of 278 participants. Krejcie and Morgan's formula assumes an alpha level and degree of accuracy of 0.05 each. Since the results of this study were not intended to influence any critical decisions that could cause financial or personal harm to individuals, there was no need to use a smaller alpha value (Bartlett, Kotrlik, & Higgins, 2001). Using an alpha of 0.05 is an accepted level in educational and social research, as it is viewed as a compromise of the likelihood of making Type I and Type II errors (Howell, 2007). Bartlett et al. (2001) note how voluntary participation in surveys often leads to high nonresponse error. Therefore, this study used the technique of oversampling to attempt to achieve the required minimum sample size. The study's IRB approval number was IRB2015-0374M.

### 3.6 Instrumentation

Quantitative data was collected via one-page, paper survey. The survey instrument was adapted from several versions of the instrument used in Ferris et al. (2011a; 2013; 2014a) studies on Michigan's BOTF event. As recommended by Stone (1978), questions adopted from the original survey instrument remained identical to ensure content validity. Where this was not possible, questions were constructed based on literature. Other researchers and agriculture industry professionals reviewed the questions to verify convergent and discriminant validity of questions with respect to the specific concepts they were intended to measure. A paper survey was handed out by

volunteers who approached participants and asked if they would be willing to provide feedback about their tour. The use of a paper survey correlated with lower nonresponse rates than an electronic version of the instrument used in the BOTF research studies to determine change in dairy product purchases several months after the event. Therefore, this study chose to use a paper survey to be handed out to participants as they exited the tour versus other modes.

To measure participants' levels of trust prior to and after experiencing Agri-Palooza, a retrospective pre-test and post-test approach was used in the paper survey. A retrospective pre-test, first proposed by Campbell and Stanley (1963), is a post-then type design that requires the participant to self-report their pre-intervention beliefs or attitudes (in this case their level of trust) while simultaneously testing their post-intervention levels of trust (i.e., they completed the survey at the end of the event indicating their pre- and post-event impressions of levels of trust). While there is evidence that retrospective recall of information often leads to measurement bias and error (Mann, 1997; Pratt, McGuigan, & Katsev, 2000), Skeff, Bergen, and Stratos (1992) note the design is more appropriate to use than traditional pre-test/post-test methods. By collecting the retrospective pre-ratings and post-ratings at the same time, the ratings "are based on the same conceptualization of the dimensions being assessed, thus providing a common standard for both ratings" (Skeff et al., 1992). Furthermore, Lamb (2005) justifies that retrospective pre-testing is an acceptable and worthy form of testing if it would otherwise be too difficult or impossible to conduct a conventional pre-test.

The survey included questions to gather information on participant demographic information, such as gender, age, and race. Participants were asked how many times they had been to a working dairy farm prior to their visit, as well as, how many previous Agri-Palooza events they had attended. Survey question seven asked participants to check all the reasons they choose to attend Agri-Palooza, and question eight asked participants to check all personal background characteristics that applied to them (e.g., grew up on a farm, grew up near a farm, work in an agriculture related job).

Survey question nine was comprised of five different statements related to three distinct concepts: food safety, animal welfare, and environmental stewardship. Collectively, these three concepts were used to asses the single construct of participant trust in farmers. Cronbach's alphas for the five trust items before attending Agri-Palooza and the five trust items after attending Agri-Palooza were highly reliable at 0.952 and 0.918, respectively.

Survey question 10 was used to determine what participants felt the impact of Agri-Palooza was for them. Participants were asked how strongly they agreed with five different statements. A copy of the survey is included in Appendix A.

To maintain participant anonymity, the principal investigator did not distribute consent forms, surveys, or attend the event at the time of data collection. A group of adult Agri-Palooza volunteers received verbal training prior to data collection on proper data collection methods. In addition to the verbal training, each data collector was provided a copy of a verbal recruitment script and written instructions for data collection

methods. The trained data collectors had no interaction with the data or the principal investigator. A copy of the recruitment script is included in Appendix B.

Data collectors offered Agri-Palooza participants the opportunity to participate in a survey asking for feedback on their experience at Agri-Palooza. Participants were informed of the opportunity as they were leaving the event grounds, while waiting for a bus to transport them back to the visitor parking lot.

Exit surveys were distributed to individuals who were over the age of 18 and had participated in the Agri-Palooza event. Participants were required to read and sign the informed consent document before completing the survey. Data collectors informed research participants that the survey could be returned upon completion, to either them or another data collector, before they left the event grounds that day.

Researchers have found that offering incentives helps to improve response rates in survey research (Church, 1993; James & Bolstein, 1990; James & Bolstein,1992). Blau's (1964) theory of social exchange explains how individual's actions (e.g., agreeing to complete a survey) are motivated by the return of such actions they are expected to bring (e.g., eligibility to win a gift card). For this reason, participants were informed that in exchange for completing the survey, each individual would be eligible to enter a drawing for a $150 Visa gift card.

Research participants who wished to be entered into the gift card drawing had to record their email address in the designated space at the end of the consent form. Ninety-eight percent of participants provided their email addresses and were entered into the drawing. All consent forms were separated from surveys immediately after they were

received from research participants. This ensured that personally identifiable information (i.e., email addresses) were not connected to the information gathered in the survey. All consent forms were securely stored in one container and surveys in another. After all surveys were collected a gift card winner was randomly drawn. All consent forms were immediately destroyed thereafter. A copy of the signed consent form is included in Appendix C

### 3.7 Data Analysis

#### 3.7.1 Analyzing Likert scale data

Data collected from the Likert items in survey question nine were treated and analyzed as interval data. All Likert items were scored using a 5-point scale so that lower scores corresponded with either less trust (survey question nine) or more disagreement (survey question ten) than higher scores. Individual Likert item scores in survey question nine were summed together to create one value that represented each participant's overall trust score.

#### 3.7.2 Descriptive statistics

The raw data collected by the paper survey was coded and exported into SPSS software for data analysis. Descriptive statistics were generated for the demographic variables used in analysis. Since the mean is the best measure of central tendency for interval data, the average pre- and post-trust scores per Likert item were calculated. Additionally, the average pre- and post-trust summative scores were also calculated. Pearson's correlation coefficient helped to identify measures of association between selected independent variables and trust scores. A paired t-test determined if there were

significant differences in trust levels before and after participation in Agri-Palooza. A paired t-test was used since it applies to related dependent samples and operates on the difference between the two tests. Statistical significance was set at the 0.05 level which provided a 95% level of confidence.

**3.8 Problems and limitations**

The study was designed to analyze a specific set of perceptions of a group of individuals, in one specific location of the country, at one specific point in time. Since the sample was non-random and geographically constrained, the results cannot be generalized beyond the parameters of the sample's population: Agri-Palooza's 2015 adult visitors. It is important to note that because participation in the study was voluntary, there was a high risk for selection bias, or threat to subject characteristics (Fraenkel, Wallen, & Hyun, 2012). This means that the selection of individuals for the sample could have resulted in the individuals differing from one another in unintended ways that were related to the variables being studied (Dillman, 2007).

Using a retrospective pre-test for self-reporting, recall of information did pose a risk for measurement bias and error. This is especially true as time between the treatment and recalling such information increased (Mann, 1997; Pratt, McGuigan, & Katzev, 2000; Schwartz & Rapkin, 2004). Therefore, to help control this threat to validity, participants were asked to complete and return the survey the same day as the event.

Other limitations included a 67% response rate. One-hundred and thirty-seven surveys were used in data analysis. A drawing for a free $150 Visa gift card was used as

an incentive to encourage participation and higher response rates. However, the response rate was still less than desired.

# 4. RESEARCH FINDINGS

## 4.1 Agri-Palooza attendance

Attendance at Agri-Palooza 2015 totaled about 4,000 people, visitors and volunteers included. Since Agri-Palooza was marketed as a family event, it can be assumed that about half of the visitor population were kids. Knowing this and that attendance included event volunteers, this study's sample size is more representative of its population than one would calculate based off of a population of 4,000 people. About 200 surveys were distributed to Agri-Palooza visitors, 140 were returned and a total of 137 surveys were used in data analysis. Thus, the response rate was 67%.

## 4.2 Demographic results

The majority of respondents were Caucasian (99%, $n = 123$), and 68% of respondents were female ($n = 93$). The 2014 U.S. Census reported 92% of the population of Wyoming County identified their ethnicity as "white alone," and 45% as female (U.S. Census Bureau, 2015). Therefore, in regard to ethnicity and gender, our sample was fairly representative of the population of Wyoming County.

More respondents ranged from ages 21 to 35 years old (35%, $n = 47$) and 36 to 50 years old (29%, $n = 39$) than any other age group. Fifty percent of respondents reported they had visited a working dairy farm more than 10 times prior to attending Agri-Palooza 2015 ($n = 68$). Additionally, only 12% ($n = 17$) of respondents reported that attending Agri-Palooza was their first time on a dairy farm in the past 20 years (Table 1).

Table 1

*Demographic Characteristics of Participants (N* = 137)

| Characteristic | *n* | % |
|---|---|---|
| Race | | |
| Caucasian | 123 | 99 |
| Other | 1 | 1 |
| African American | 0 | 0 |
| Hispanic | 0 | 0 |
| Asian | 0 | 0 |
| American Indian | 0 | 0 |
| Pacific Islander | 0 | 0 |
| Multi-Racial | 0 | 0 |
| Gender | | |
| Female | 93 | 68 |
| Male | 44 | 32 |
| Age at time of survey (years) | | |
| 21 to 35 | 47 | 35 |
| 36 to 50 | 39 | 29 |
| 51 to 65 | 33 | 24 |
| > 65 | 8 | 6 |
| 18 to 20 | 6 | 4 |
| Number of prior visits to a dairy farm | | |
| > 10 | 68 | 50 |
| 1 to 2 | 28 | 20 |
| 3 to 5 | 17 | 12 |
| 0, This is my first visit | 17 | 12 |
| 6 to 10 | 7 | 5 |
| Number of previous Agri-Palooza events attended | | |
| 0, This is my first visit | 71 | 52 |
| 2 + others | 51 | 38 |
| 1 other | 14 | 10 |

*Note*. Totals of percentages are not 100 for every characteristic because of rounding.

Mapping of respondent zip codes indicated that all respondents reported living in the state of New York (Figure 2). Furthermore, 95% of respondents lived within a 55-mile radius of the event in Silver Springs, New York (Figure 3).

Participants were asked why they chose to attend Agri-Palooza by checking all possible reasons that applied to them. Seventy-two percent of respondents selected "to support agriculture" ($n$ = 99) and 58% selected "to bring my kids" ($n$ = 80; Table 2). Participants were also asked to describe their background by checking all possible descriptors that applied to them. Fifty-three percent of respondents reported having "relatives or friends who owned a dairy farm in the past 20 years" ($n$ = 72; Table 3). Forty-eight percent of respondents reported that they "live near a farm," ($n$ = 66) and 42% reported that they "grew up near a farm" ($n$ = 57).

The reported prior number of visits to a dairy farm and participant age were further explored in a cross tabulation with the frequencies of participant background characteristics. The cross tabulation revealed that of the seven participants who reported they had not visited a dairy farm before, none reported living on a farm, and only 1 respondent indicated they worked in an agriculture related job (Table 4). Additionally, the cross tabulation revealed that, in general, older participants reported they "grew up on a farm" and were "a dairy farm owner/operator, family member, or employee" more so than younger participants (Table 5).

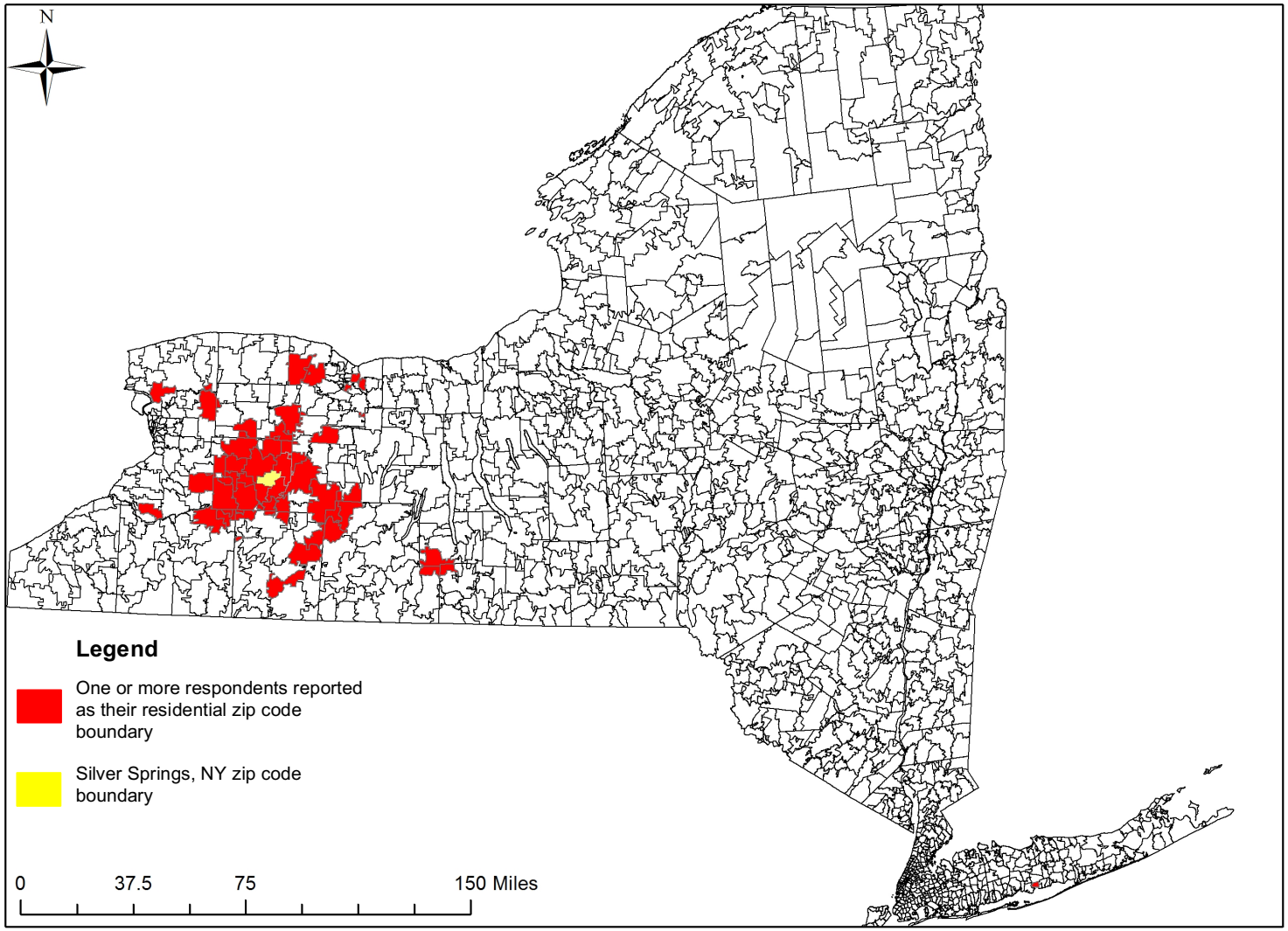


*Figure 2*. Map of respondent residential zip codes. Data set from New York State Office of Cyber Security. (2008). *Postal Inventory* [shape file of postal code boundaries]. Retrieved from http://www.nygis.state.ny.us/gisdata/inventories/details.cfm?DSID=934. Map generated from ArcGIS (version 10.2) [computer software]. Redlands, California: ESRI.

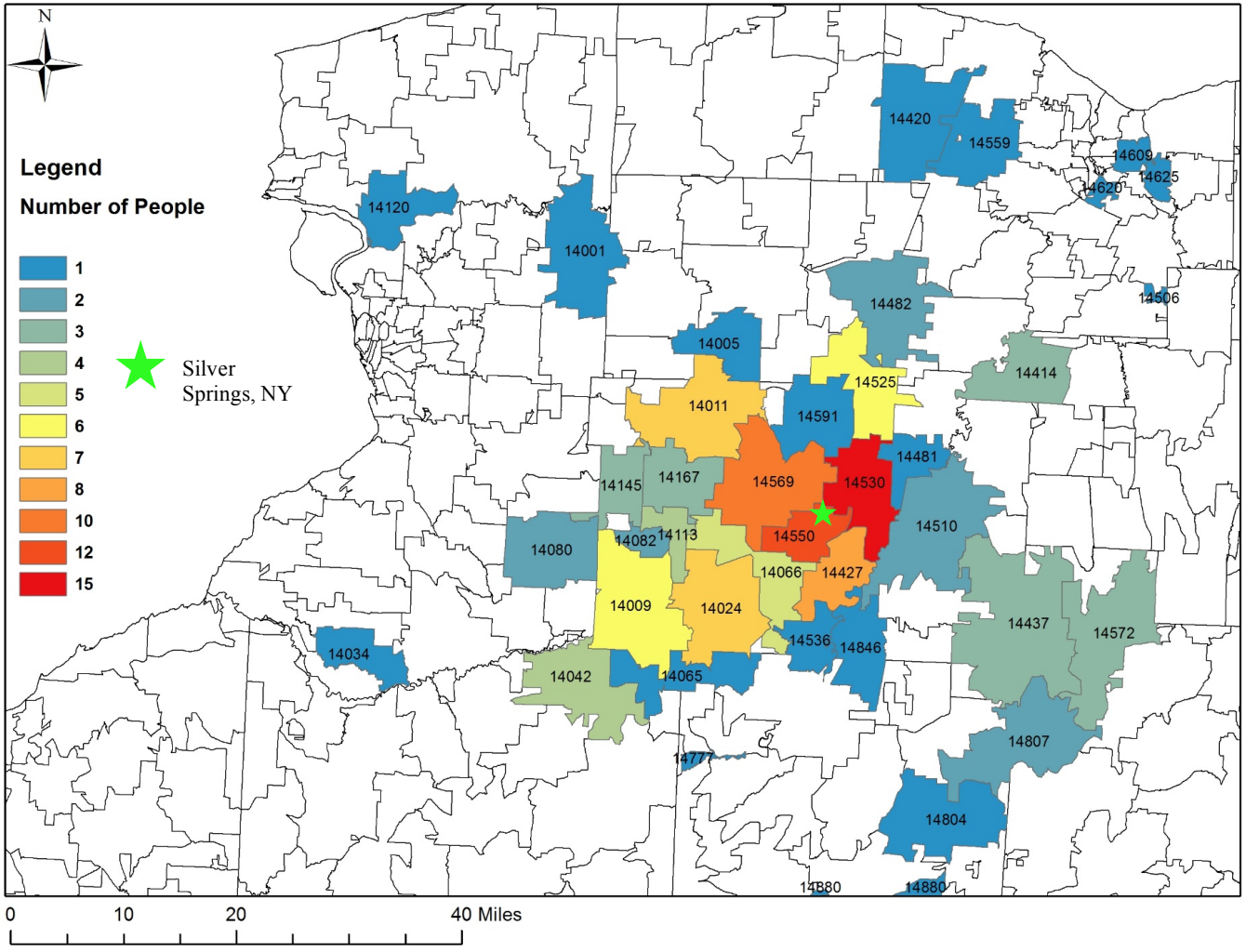


*Figure 3.* Map of respondent residential zip codes within a 50-mile radius of Agri-Palooza. Data set from New York State Office of Cyber Security. (2008). *Postal Inventory* [shape file of postal code boundaries]. Retrieved from http://www.nygis.state.ny.us/gisdata/inventories/details.cfm?DSID=934. Map generated from ArcGIS (version 10.2) [computer software]. Redlands, California: ESRI.

Table 2

*Participant Motivations for Attending Agri-Palooza* (*N* = 137)

| Reasons For Attendance | *n* | *%* |
|---|---|---|
| To support agriculture | 99 | 72 |
| To bring my kids | 80 | 58 |
| To see a working dairy farm | 64 | 47 |
| Learn how ag food products are produced | 37 | 27 |
| To bring grand-kids | 23 | 17 |
| To bring friends | 18 | 13 |
| Concern about environmental impacts | 12 | 9 |
| Concern for animal welfare | 10 | 7 |
| Concern for food production methods | 9 | 6 |

*Note*. Total of percentages is not 100 because respondents were asked to check all that apply.

Table 3

*Background Characteristics of Survey Respondents* (*N* = 137)

| Background characteristic | *n* | *%* |
|---|---|---|
| Where they grew up | | |
| Grew up near a farm | 57 | 42 |
| Grew up on a farm | 44 | 32 |
| Live near a farm | 66 | 48 |
| Live on a farm | 26 | 19 |
| Occupation | | |
| I am a dairy farm owner/operator, family member, or employee | 21 | 15 |
| I am a crop/livestock (other than dairy) farm owner/operator, family member, or employee | 11 | 8 |
| Work in a non-ag related job | 48 | 35 |
| Work in an ag related job | 35 | 26 |
| A stay at home parent | 19 | 14 |
| Retired | 13 | 10 |
| Not working or unemployed | 5 | 4 |
| Relatives who farm | | |
| I have relatives or friends who owned a dairy farm in the past 20 years | 72 | 53 |

Table 4

*Frequencies of Background Characteristics as a Function of Number of Prior Visits to a Dairy Farm*

| | Number of prior visits | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0, this is my 1st visit[a] | | 1 to 2[b] | | 3 to 5[c] | | 6 to 10[d] | | > 10[e] | |
| Background characteristic | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Where they grew up | | | | | | | | | | |
| Grew up near a farm | 5 | 29 | 15 | 53 | 8 | 47 | 3 | 43 | 26 | 38 |
| Grew up on a farm | 4 | 24 | 3 | 11 | 3 | 18 | 2 | 29 | 32 | 47 |
| Live near a farm | 9 | 53 | 15 | 54 | 12 | 71 | 4 | 57 | 26 | 38 |
| Live on a farm | 0 | 0 | 2 | 7 | 4 | 24 | 2 | 29 | 18 | 27 |
| Occupation | | | | | | | | | | |
| I am a dairy farm owner/operator, family member, or employee | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 14 | 19 | 28 |
| I am a crop/livestock (other than dairy) farm owner/operator, family member, or employee | 0 | 0 | 0 | 0 | 2 | 12 | 3 | 43 | 6 | 9 |
| Work in a non-ag related job | 5 | 29 | 11 | 39 | 7 | 41 | 2 | 29 | 23 | 34 |
| Work in an ag related job | 1 | 6 | 2 | 7 | 4 | 24 | 1 | 14 | 27 | 40 |
| A working mom with kids at home | 2 | 12 | 9 | 32 | 2 | 12 | 1 | 14 | 13 | 19 |
| A stay at home parent | 2 | 12 | 4 | 14 | 2 | 12 | 0 | 0 | 11 | 16 |
| Retired | 2 | 12 | 0 | 0 | 3 | 18 | 1 | 14 | 7 | 10 |
| Not working or unemployed | 2 | 12 | 2 | 7 | 0 | 0 | 0 | 0 | 1 | 2 |
| Relatives who farm | | | | | | | | | | |
| I have relatives or friends who owned a dairy farm in the past 20 years | 6 | 35 | 15 | 54 | 8 | 47 | 5 | 71 | 38 | 56 |

[a] $n = 17$. [b] $n = 28$. [c] $n = 17$. [d] $n = 7$. [e] $n = 68$

Table 5

*Frequencies of Background Characteristics as a Function of Participant Age*

| | Participant age | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 18 to 20 | | 21 to 35 | | 36 to 50 | | 51 to 65 | | > 65 | |
| Background characteristic | *n* | *%* | *n* | *%* | *n* | *%* | *n* | *%* | *n* | *%* |
| Where they grew up | | | | | | | | | | |
| Grew up near a farm | 3 | 50 | 19 | 40 | 20 | 49 | 13 | 39 | 2 | 25 |
| Grew up on a farm | 1 | 17 | 13 | 28 | 11 | 27 | 16 | 49 | 3 | 36 |
| Live near a farm | 3 | 50 | 24 | 51 | 24 | 59 | 11 | 33 | 3 | 38 |
| Live on a farm | 1 | 17 | 11 | 23 | 5 | 12 | 7 | 21 | 2 | 25 |
| Occupation | | | | | | | | | | |
| I am a dairy farm owner/operator, family member, or employee | 1 | 17 | 8 | 17 | 2 | 5 | 8 | 24 | 2 | 25 |
| I am a crop/livestock (other than dairy) farm owner/operator, family member, or employee | 0 | 0 | 4 | 9 | 3 | 7 | 4 | 12 | 0 | 0 |
| Work in a non-ag related job | 2 | 33 | 23 | 49 | 12 | 29 | 10 | 30 | 1 | 13 |
| Work in an ag related job | 1 | 17 | 11 | 23 | 10 | 24 | 9 | 27 | 4 | 50 |
| A working mom with kids at home | 0 | 0 | 16 | 34 | 7 | 17 | 3 | 9 | 0 | 0 |
| A stay at home parent | 0 | 0 | 9 | 19 | 7 | 17 | 3 | 9 | 0 | 0 |
| Retired | 0 | 0 | 0 | 0 | 1 | 2 | 7 | 21 | 5 | 63 |
| Not working or unemployed | 3 | 50 | 0 | 0 | 1 | 2 | 1 | 3 | 0 | 0 |
| Relatives who farm | | | | | | | | | | |
| I have relatives or friends who owned a dairy farm in the past 20 years | 2 | 33 | 23 | 49 | 28 | 68 | 16 | 49 | 2 | 25 |

[a]n = 6. [b]n = 47. [c]n = 41. [d]n = 33. [e]n =8.

### 4.3 Results regarding study objective 1

Survey question nine measured participants' level of trust in farmers before and after participating in Agri-Palooza. Table 6 displays the frequencies of pre-trust scores per item in question nine. Trust scores per item ranged on a scale from one to five, where one represented "*very low trust*" and five represented "*very high trust*." Values in Table 7, column 2 represent the average pre-trust scores for each item. Participants reported the highest average pre-trust in farmers regarding the role farmers play in "safe-guarding milk" ($M = 4.57$) and the lowest average pre-trust for "caring for the environment" ($M = 4.45$).

Table 8 displays the frequencies of the summative pre-trust scores. Summative trust scores ranged from five to twenty-five, where five represented "*very low trust*" and twenty-five represented "*very high trust*." As shown in Table 8, 61% of respondents reported "*very high*" summative pre-trust scores totaling between 23 and 25 ($n = 83$). The average summative pre-trust score was 22.588 ($SD = 3.168$)

Table 6

*Frequencies of Pre- and Post-Trust Scores Per Item*

| Item | Pre-trust score | *n* | *%* | Post-trust score | *n* | *%* |
|---|---|---|---|---|---|---|
| Caring for the environment | | | | | | |
| | 1 | 0 | 0 | 1 | 0 | 0 |
| | 2 | 3 | 2.3 | 2 | 0 | 0 |
| | 3 | 13 | 9.8 | 3 | 3 | 2.3 |
| | 4 | 39 | 29.3 | 4 | 25 | 18.8 |
| | 5 | 78 | 58.6 | 5 | 105 | 78.9 |
| Caring for food-producing animals | | | | | | |
| | 1 | 0 | 0 | 1 | 0 | 0 |
| | 2 | 1 | 0.8 | 2 | 0 | 0 |
| | 3 | 10 | 7.5 | 3 | 1 | 0.8 |
| | 4 | 40 | 30.1 | 4 | 19 | 14.3 |
| | 5 | 82 | 61.7 | 5 | 113 | 83.1 |
| Safe-guarding milk | | | | | | |
| | 1 | 0 | 0 | 1 | 0 | 0 |
| | 2 | 0 | 0 | 2 | 0 | 0 |
| | 3 | 12 | 9.0 | 3 | 1 | 0.8 |
| | 4 | 32 | 24.1 | 4 | 22 | 16.5 |
| | 5 | 89 | 66.9 | 5 | 110 | 82.7 |
| Safe-guarding ag products (other than milk) | | | | | | |
| | 1 | 0 | 0 | 1 | 0 | 0 |
| | 2 | 0 | 0 | 2 | 0 | 0 |
| | 3 | 13 | 9.8 | 3 | 3 | 2.3 |
| | 4 | 34 | 25.6 | 4 | 23 | 17.3 |
| | 5 | 86 | 64.7 | 5 | 108 | 81.2 |
| Providing good housing for dairy animals | | | | | | |
| | 1 | 0 | 0 | 1 | 0 | 0 |
| | 2 | 0 | 0 | 2 | 1 | 0.8 |
| | 3 | 12 | 9.0 | 3 | 2 | 1.5 |
| | 4 | 39 | 29.3 | 4 | 17 | 12.8 |
| | 5 | 82 | 61.7 | 5 | 114 | 85.7 |

*Note*. Pre-trust scores are coded as 1 = very low trust, 2 = low trust, 3 = neutral trust, 4 = high trust, 5 = very high trust.

Table 7

*Paired T-test Results Comparing Pre- and Post-Trust Scores Per Item (N = 135)*

| Trust item | Pre-trust score | | Post-trust score | | Mean change | t(135) | P* | Cohen's d |
|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | | | | |
| Safe-guarding milk | 4.57 | 0.664 | 4.81 | 0.409 | 0.24 | -5.139 | 0.01 | 0.44 |
| Safe-guarding ag products (other than milk) | 4.55 | 0.666 | 4.79 | 0.463 | 0.24 | -4.895 | 0.01 | 0.42 |
| Providing good housing for dairy animals | 4.53 | 0.667 | 4.82 | 0.471 | 0.29 | -5.055 | 0.01 | 0.50 |
| Caring for food-producing animals | 4.53 | 0.667 | 4.84 | 0.384 | 0.31 | -5.751 | 0.01 | 0.57 |
| Caring for the environment | 4.45 | 0.760 | 4.77 | 0.472 | 0.32 | -5.659 | 0.01 | 0.51 |

*Note.* Table reflects only participants that responded to all questions and gave both a pre and post response.
* *The level of significance ($p < .01$)* was obtained after Bonferroni adjustment (0.05/5=0.01).

Table 8

*Frequencies of Summative Pre-Trust Scores and Post-Trust Scores*

| | Pre-trust score[a] | | Post-trust score[b] | |
|---|---|---|---|---|
| Summative trust score | *n* | % | *n* | % |
| 15 | 7 | 5 | 1 | 1 |
| 16 | 3 | 2 | 0 | 0 |
| 17 | 4 | 3 | 0 | 0 |
| 18 | 3 | 2 | 0 | 0 |
| 19 | 3 | 2 | 2 | 2 |
| 20 | 21 | 15 | 13 | 10 |
| 21 | 5 | 4 | 3 | 2 |
| 22 | 7 | 5 | 5 | 4 |
| 23 | 5 | 4 | 5 | 4 |
| 24 | 4 | 3 | 6 | 4 |
| 25 | 74 | 54 | 101 | 74 |

*Note*. Total of percentages are not 100 because of rounding.
[a] $n = 136$, [b] $n = 136$

### 4.4 Results regarding study objective 2

Table 7, column 4 displays the average post-trust scores per item. Participants reported the highest post-trust regarding the role farmers play in "caring for food-producing animals" ($M = 4.84$) and the lowest post-trust in farmers for "caring for the environment" (4.77). Table 8 displays the frequencies of the summative post-trust scores. As shown in Table 8, 82% of respondents reported "*very high*" summative post-trust scores totaling between 23 and 25 ($n = 112$). The average summative post-trust score was 24.044 ($SD = 1.909$).

### 4.5 Results regarding study objective 3

A paired t-test was conducted to compare participant pre- and post-trust scores. The difference in summative post-trust scores ($M = 24.044$, $SD = 1.909$) was found to be statistically higher than the reported summative pre-trust scores ($M = 22.588$, $SD = 3.168$), $p < 0.05$ (Table 9).

Table 7 displays the paired sample statistics of the pre- and post-trust scores per trust item in survey question nine. Agri-Palooza participants reported statistically significant higher levels ($p = 0.01$) of trust after attending the event than their reported levels of trust before the event for all items. Cohen's effect size values suggested a medium practical significance for each of the trust items (Table 7, column 9) (Cohen, 1988; Thalheimer & Cook, 2003). The greatest change in trust (score) was seen in the item, "caring for the environment" (+0.32). The least change in trust was seen in the item, "safe-guarding milk" (+0.24) and "safe-guarding ag products (other than milk)" (+0.24).

Table 9

*Average Summative Pre- and Post-Trust Scores*

| Summative Trust Score | *M* | *SD* |
|---|---|---|
| Pre-trust score | 22.588 | 3.168 |
| Post-trust score | 24.044 | 1.909 |

*Note.* Table reflects only participants that responded to all questions and gave both a pre and post response.

### 4.6 Results regarding study objective 4

Calculating Pearson's correlation coefficient was used to determine significant relationships between demographic variables with participant pre- and post-trust scores. The level of significance was established a priori at $p = 0.05$. A moderate, negative correlation was found between the reported number of prior visits to a working dairy farm and change in pre- to post-trust scores ($r = -0.38$, $p = .05$) (Davis, 1971; Table 10).

Reported number of prior visits to a working dairy farm and pre-trust scores were significantly correlated ($r = 0.33$, $p = 0.05$). The correlation coefficient suggests a moderate correlation between the two variables (Davis, 1971; Table 11). Little correlation was found between participant age and pre-trust scores and post-trust scores ($r = -0.15$, $p = 0.05$, $r = -0.15$, $p = 0.05$, respectively) (Davis, 1971; (Table 11).

A moderate correlation was found between participants' pre-trust scores and post-trust scores ($r = 0.49$, $p = 0.05$) (Davis, 1971; Table 11).

Table 10

*Intercorrelations for Respondent Pre- and Post-Trust Score Change with Number of Prior Visits to a Dairy Farm and Age*

| Variable | 1 | 2 | 3 |
|---|---|---|---|
| 1. Number of visits | — | | |
| 2. Age | 0.08 | — | |
| 3. Trust score change | -0.38 | 0.06 | — |

Note. All coefficients are significant at $p < 0.05$. Davis (1971) interprets a correlation coefficient of -0.38 as a moderate association.

Table 11

*Intercorrelations for Respondent Pre-Trust and Post-Trust Scores with Number of Prior Visits to a Dairy Farm and Age*

| Variable | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Pre-trust score | — | | | |
| 2. Post-trust score | 0.49 | — | | |
| 3. Age | -0.15 | -0.15 | — | |
| 4. Number of visits | 0.33 | 0.02 | 0.09 | — |

Note. All coefficients are significant at $p < .05$. Davis (1971) interprets a correlation coefficient of 0.49 and 0.33 as moderate associations, and any coefficient less than 0.29 a low or negligible association.

Figure 4 displays the distribution of average pre-trust scores per Likert item as a function of prior number of visits to a dairy farm. Participants who reported they had not visited a dairy farm prior to Agri-Palooza had the lowest average pre-trust scores for "caring for the environment," "caring for food producing animals," and "providing good-housing for dairy animals" (Figure 4). Additionally, participants with no prior visits had the second lowest average pre-trust for "safe-guarding milk." Participants who reported six to ten prior visits to a dairy farm had slightly higher average pre-trust scores than those who had been on a dairy farm more than 10 times prior to Agri-Palooza for all Likert items.

Figure 5 displays the trust change per Likert item as a function of the number of prior visits to a dairy farm. Participants who reported they had not visited a dairy farm in the past 20 years, prior to Agri-Palooza showed the greatest increase in trust for "caring for the environment," "caring for food-producing animals," and "safe-guarding milk." Additionally, participants with no prior visits showed the second greatest increase in trust for "safe-guarding agricultural products (other than milk)" and "providing good housing for dairy animals," where as participants with one to two prior visits showed the greatest increase for those two items. Participants with six to ten prior visits showed no change in trust for any of the five Likert items

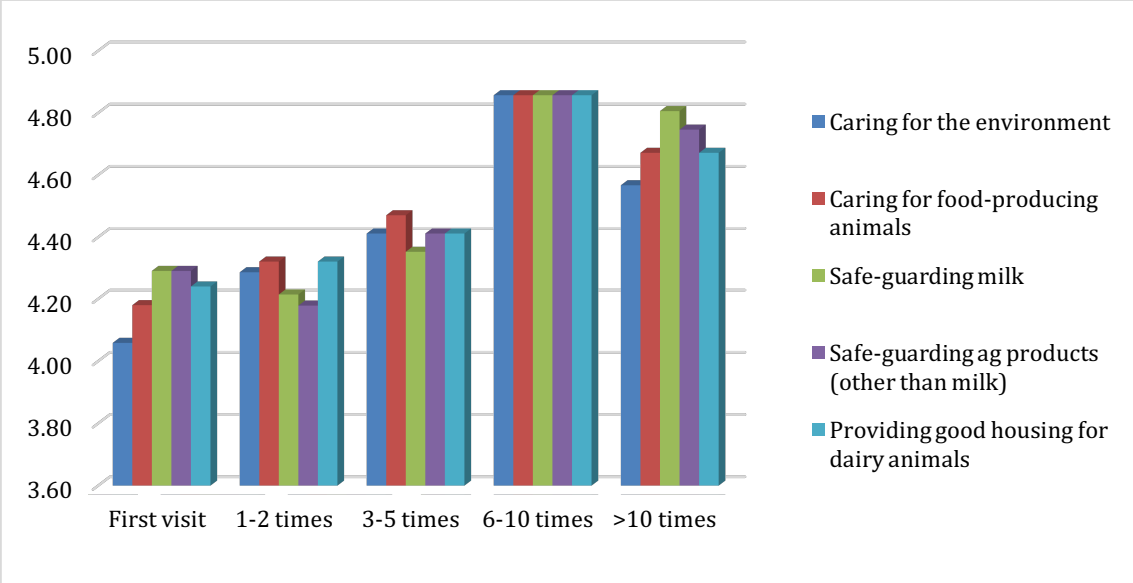


*Figure 4*. Average pre-trust scores per Likert item as a function of prior number of visits to a dairy farm.

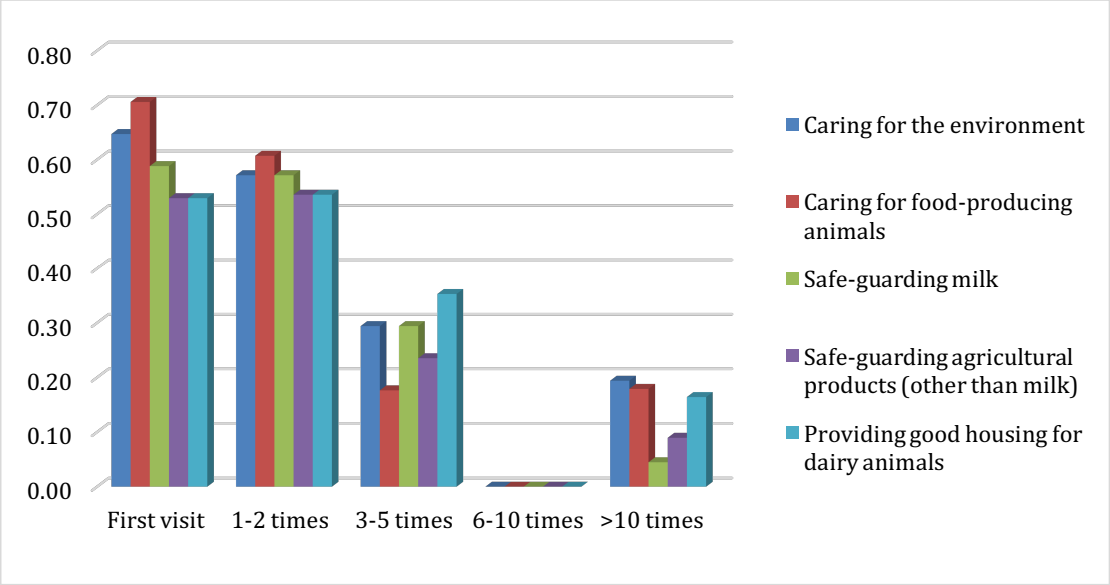


*Figure 5*. Average change in trust (post-trust score – pre-trust score) per Likert item as a function of prior number of visits to a dairy farm.

### 4.7 Results regarding study objective 5

Survey question 10 was used to evaluate what participants felt the impact of Agri-Palooza was for them. Participants were asked how strongly they agreed with five different statements. Table 12 reports the average agreement scores on a one to five scale, where one represents "*strong disagreement*" and five represents "*strong agreement*." The two statements with the strongest average agreement were "Agri-Palooza is a good way to connect with modern food production" ($M = 4.88$, $SD = 0.56$) and "I have a better understanding of modern dairy production" ($M = 4.79$, $SD = 0.64$). Table 13 displays the frequencies of agreement scores for each item in question 10. Participants were asked to indicate "*n/a*" if they were already confident in New York dairy products and agricultural food products (other than milk). Twenty-three point one percent ($n = 30$) and 27.7% ($n = 36$) reported they were already confident in New York dairy products and agricultural food products (other than milk), respectively.

Table 12

*Average Agreement Scores of Agri-Palooza's General Impact*

| Agreement Statements | *M* | *SD* | n |
|---|---|---|---|
| Agri-Palooza is good way to connect with modern food production | 4.88 | 0.56 | 128 |
| I have better understanding of modern dairy production | 4.79 | 0.64 | 117 |
| My general impression of dairy farming has improved | 4.78 | 0.68 | 119 |
| My visit increased my confidence in NY dairy products | 4.68 | 0.74 | 100 |
| My visit increased my confidence in NY ag food products | 4.57 | 0.84 | 94 |

*Note.* Respondents were asked to indicate "N/A" if they were already confident in New York agricultural products before the event. These answers were not included in the calculation of means or standard deviations.

Table 13

*Frequencies of Agreement Scores on Agri-Palooza's General Impact*

| Agreement Statement | *n* | % |
|---|---|---|
| My visit increased my confidence in NY dairy products[a] | | |
| strongly disagree | 2 | 1.5 |
| disagree | 0 | 0 |
| neutral | 4 | 3.1 |
| agree | 16 | 12.3 |
| strongly agree | 78 | 60.0 |
| n/a- I am already confident in NY dairy products | 30 | 23.1 |
| My visit increased my confidence in NY ag food products[b] | | |
| strongly disagree | 2 | 1.5 |
| disagree | 0 | 0 |
| neutral | 9 | 6.9 |
| agree | 14 | 10.8 |
| strongly agree | 69 | 53.1 |
| n/a- I am already confident in NY dairy products | 36 | 27.7 |
| Agri-Palooza is good way to connect with modern food production[c] | | |
| strongly disagree | 2 | 1.5 |
| disagree | 0 | 0 |
| neutral | 1 | 0.8 |
| agree | 5 | 3.8 |
| strongly agree | 120 | 91.6 |
| n/a | 3 | 2.3 |
| I have better understanding of modern dairy production[d] | | |
| strongly disagree | 2 | 1.6 |
| disagree | 0 | 0 |
| neutral | 2 | 1.6 |
| agree | 12 | 9.3 |
| strongly agree | 101 | 78.3 |
| n/a | 12 | 9.3 |
| My general impression of dairy farming has improved[e] | | |
| strongly disagree | 2 | 1.5 |
| disagree | 0 | 0 |
| neutral | 5 | 3.8 |
| agree | 8 | 6.2 |
| strongly agree | 104 | 80.0 |
| n/a | 11 | 8.5 |

[a] $n = 130$. [b] $n = 130$. [c] $n = 131$. [d] $n = 129$. [e] $n = 130$.

# 5. CONCLUSIONS

## 5.1 Summary

The purpose of this study was to describe the influence of Agri-Palooza on participant perceptions about dairy farms and farmers, as well as, other New York agriculture industries. Previous research has shown that on-farm educational events are effective at increasing participant trust in and positive impressions of dairy farms and farmers (Ferris et al., 2011; Timms et al. 2015). However, these findings resulted from events that took place only in the Midwest. Therefore, this study sought to expand on previous research and describe the influence of Agri-Palooza, an on-farm dairy educational event in New York State. The study was guided by the following five research objectives:

1. Determine participant levels of trust in farmers before participating in Agri-Palooza.
2. Determine participant levels of trust in farmers after participating in Agri-Palooza.
3. Compare participant levels of trust in farmers before and after participating in Agri-Palooza.
4. Determine if there are significant relationships between selected demographics and changes in levels of trust.
5. Describe the general impact of Agri-Palooza on participants through participant input.

This was a descriptive study that utilized quantitative survey methods. The exit survey incorporated a retrospective pre- and post-test to measure participant trust levels. A total of 137 surveys were used in data analysis.

## 5.2 Conclusions and discussion

### 5.2.1 Conclusions and discussion regarding results of study objective 1

This study found that 61% of respondents already had "*very high*" trust in farmers prior to attending Agri-Palooza, or summative pre-trust scores totaling between 23 and 25 ($n$ = 83). Additionally, 28% of respondents reported "*high*" trust in farmers prior to attending Agri-Palooza, or summative pre-trust scores totaling between 18 and 22 ($n$ = 39; Table 8). The "*high*" and "*very high*" pre-trust scores are consistent with the findings of Timms et al. (2015). Researchers found that "prior to the event, 76% of participants had a positive (65% extremely positive) opinion and trust in dairy farms" (Timms et al., 2015). These findings suggest that a majority of the people who chose to attend Agri-Palooza were already supporters of the agriculture and had positive perceptions of the industry prior to the event. This conclusion is further supported by the 72% of respondents ($n$ = 99) who noted that "to support agriculture" was one of their motivations for attending the event. Furthermore, only 7% ($n$ = 10), 6% ($n$ = 9), and 9% ($n$ = 12) of participants reported that "concern for animal welfare," "concern for food production methods," and "concern about environmental impacts" were motivations for attending, respectively. Thus, there was only a small portion of participants who reported attending the event due to concerns about the industry's practices. Therefore, this study

also concluded that more Agri-Palooza participants chose to attend the event out of support for agriculture than those who attended out of concern for agricultural practices.

No study participants reported "*low*" or "*very low*" pre-trust in farmers, or summative trust scores totaling between 0 and 7, or 8 and 12, respectively. These findings are inconsistent with Ferris et al. (2011), as 111 respondents reported either "very negative" or "negative" impressions of dairy farmers. A major contributor to this difference could be explained by participants' number of prior visits to a dairy farm. Forty-six percent of BOTF participants reported they had not visited a working dairy farm before (Ferris et al., 2011). In contrast, only 12% ($n$ = 17) of Agri-Palooza participants reported they had not visited a working dairy farm in the past 20 years. Furthermore, 52% ($n$ = 71) of Agri-Palooza participants reported that they had been to an Agri-Palooza event before. Thus, the number of first time dairy farm visitors to Agri-Palooza was much less than the number of first time visitors at BOTF. This suggests that since over half of the Agri-Palooza population were repeat attendees, many participants already had positive perceptions of dairy farmers. Based on these findings, it was concluded that those with less prior experience with dairy farms may have more negative perceptions, or less trust, than those with more previous experience.

### 5.2.2 Conclusions and discussion regarding results of study objective 2

After attending Agri-Palooza, 82% of respondents reported "*very high*" trust in farmers ($n$ = 112), and 18% reported "*high*" trust ($n$ = 23; Table 8). Furthermore, no respondent reported having "*low*" or "*very low*" trust in farmers following the event.

This means that no respondent's trust in farmers decreased enough to cause them to report practically "*low*" or "*very low*" trust in farmers as a result of attending.

### 5.2.3 Conclusions and discussion regarding results of study objective 3

Data analysis concluded that the increase in post-trust scores were statistically significant from the pre-trust scores. Even though the positive shift in trust was small, it was still statistically significant. This is because 89% of the summative pre-trust scores were already "*high*" or "*very high*" to begin with ($n$ = 122). Closer examination reveals that the standard deviation of average trust scores decreased for each Likert item from pre- to post-trust scores (Table 7).

The tightened cluster of post-trust scores can be explained by two major shifts. The first, being the number of respondents that shifted into the "*high*" or "*very high*" trust categories following the event. Prior to the event, 89% of respondents ($n$ = 122) fell into the "*high*" and "*very high*" trust categories. Following the event, 99% of all respondents indicated "*high*" or "*very high*" trust ($n$ = 135). Based on the distribution of pre-trust and post-trust scores for each Likert item, in general, the number of individuals who rated the five trust items "very positive" prior to the event increased the following percentages: 35% for "caring for the environment"; 35% for "caring for food-producing animals"; 24% for "safe-guarding milk"; and 26% for "safe-guarding agricultural products (other than milk)"; and 39% for "providing good housing or dairy animals" (Table 6).

The second major shift was seen in the decreased number of participants reporting "neutral" trust in farmers following the event. Ten percent of respondents reported "neutral" summative pre-trust scores, or scores totaling between 13 and 17 ($n$ = 14). After the event, only one respondent (1%) reported "*neutral*" trust in farmers. Thus, the "*neutral*" trust category was practically eliminated from pre- to post-scores. When the five trust items were broken down, in general, the number of individuals who reported "neutral" trust decreased about 90%. This shift out of the "*neutral*" category and into the "*high*" and "*very high*" categories is where this study saw the most practical change from pre- to post-trust scores. Therefore, this study found that Agri-Palooza was influential at increasing participant trust in those who had "*neutral*" or "*high*" trust in farmers before the event and shifting their trust to either "*high*" or "*very high*" following the event. This means that Agri-Palooza reinforced participants' already neutral or positive trust and strengthened their trust even further.

Agri-Palooza study participants' average pre-trust scores were greatest for the item "safe-guarding milk." This suggests that the majority of Wyoming County residents perceive dairy farmers as trustworthy in taking the necessary steps to safe-guard milk. Similarly, respondents' prior perceptions of farmers were greatest for "steps to safe-guard milk" in Ferris et al. (2011) BOTF research. Furthermore, this study and Ferris et al. (2011) both found that participant trust changed the least for the item "safe-guarding milk" and "steps to safe-guard milk," respectively. This is likely because the 5-point Likert scale limited participants' abilities to indicate a great increase in trust, if their trust was already high to begin with.

The statistically significant change in pre- to post-trust scores is a finding that is congruent with the findings of previous research about on-farm educational events. Ferris et al. (2011), (Ferris et al. (2014), and Timms et al. (2015), too, found that the on-farm dairy educational event of study significantly increased participants' positive impressions of dairy farms, as well as, participants' trust in dairy farmers. The parallel findings suggest that the environmental stimuli directed at Agri-Palooza participants (i.e., live models and direct instruction) positively influenced participants' trust in dairy farms and farmers. Bandura's (1978) theory of reciprocal determinism explains how participants' cognitive factors (i.e. knowledge, attitudes, and expectations) were likely influenced by the environmental stimuli from the event (Figure 1). Furthermore, Wachenheim and Rathge (2000) note that experiences, knowledge, and attitudes of an individual influence their perceptions of agriculture. Therefore, Agri-Palooza was able to positively influence participants' perceptions of dairy farms and farmers.

### 5.2.4 Conclusions and discussion regarding results of study objective 4

This study found a moderate correlation between pre-trust scores and the reported number of prior visits to a dairy farm, $r = 0.33$, $p = 0.05$ (Davis, 1971; Table 11). In general, participants with no prior visits to a dairy farm showed less pre-trust for each Likert item than participants with greater numbers of prior visits to a dairy (Figure 4). Ferris et al. (2011) also found that participants with greater numbers of reported visits to a dairy farm prior to attending BOTF had higher impressions of dairy farms and farmers before the event than those with less reported visits. Based on these findings it

can be concluded that individuals who are more familiar with dairy farms have more positive impressions and higher trust in dairy farms and farmers.

Taking this into consideration, it was expected that participants with more than 10 prior visits to a dairy farm would have greater pre-trust scores than those with six to ten visits, but that was not the case. It should be noted that only seven participants reported six to ten prior visits to a dairy farm, where as 68 participants reported more than 10 prior visits. Therefore, the unexpected results were likely due to the limited subgroup size of participants who reported six to ten prior visits.

This study also found a low negative correlation between the reported number of prior visits to a working dairy farm and change in pre- to post-trust scores, $r = -0.326$, $p = 0.05$ (Hinkle, Wiersma, & Jurs, 1979; Table 10). In general, participants with less prior visits to a dairy farm showed the greatest increase in trust for each Likert item than participants with more prior visits to a dairy farm (Figure 5). It should be noted that participants who reported one to two prior visits to a dairy farm showed slightly greater change in trust (+0.01) than those with no prior visits for "safe-guarding agricultural products (other than milk)" and "providing good housing for dairy animals" each. However, these findings may likely be a result of the limited subgroup sizes. Only 17 participants reported no prior visits to a dairy farm, where as 28 participants reported one to two prior visits.

No change in trust was seen for any of the seven participants who reported they had visited a dairy farm six to ten times prior to attending Agri-Palooza. Six of the seven respondents reported "*very high*" pre-trust, or a score of five, for all Likert items. If

respondents felt their trust increased, then they should have indicated "*high*" pre-trust. This is where using a 10-point Likert scale may be an improvement. A 12-point scale would allow respondents to indicate very high levels of pre-trust, i.e., a pre-trust score of eight or nine, while still being able to indicate an increase in trust.

The negative correlation between the number of prior visits to a working dairy farm and trust change support Ferris et al. (2011), as those who reported less number of visits to a dairy farm prior to attending BOTF showed the greatest change in trust from pre- to post-scores. Therefore, it can be concluded that Agri-Palooza had a more positive impact on individuals who had not been on a dairy farm before.

When Pearson's correlation was performed, the pre-trust and post-trust scores were significantly correlated ($r = 0.49$ $p = .05$) (Davis, 1971; Table 11). While this is likely because the before scale and after scale in survey question nine measure the exact same concepts, the correlation may also be contributed to the high number of "*high*" or "*very high*" pre-trust scores. Eighty-nine percent ($n = 122$) of participants reported "*high*" or "*very high*" pre-trust in farmers. Furthermore, since the measurement scale only had five points (i.e., *very low, low, neutral, high, very high*) the scale may have limited participants' responses. For example, if a respondent reported "*high*" pre-trust and felt that Agri-Palooza greatly strengthened their trust in farmers, then they were left with only one option to chose: "*very high.*" This option may have been lower than they wanted. Therefore, while this study used a 5-point Likert scale, a 7- or 10-point Likert scale would have provided a higher degree of measurement precision when assessing participants' trust in farmers.

### 5.2.5 Conclusions and discussion regarding results of study objective 5

When participants were asked how their visit to Agri-Palooza impacted them, a large percentage of respondents "*strongly agreed*" with the following statements: "Agri-Palooza is a good way to connect the public with modern food production" (91.6%, $n$ = 120), and "My general impression about modern dairy farming has improved" (80%, $n$ = 104). Participants' strong agreement to these statements are consistent with the participant feedback reported in Ferris et al. (2011) on the general impact of BOTF. Eighty-five percent of BOTF participants "*strongly agreed*" with the statement "Breakfast on The Farm is a good way to connect the public with modern food production" and 78% "*strongly agreed*" that "their general impression about modern dairy farming has improved" as a result of attending. Thus, these findings suggest that participants felt that their experiences at the event positively influenced their perceptions about modern dairy farming. The participant feedback also provides support that Agri-Palooza is believed by its participants to be effective at executing the event's own goal: to educate and connect the public with modern agriculture.

## 5.3 Theoretical implications

One of the major implications of this descriptive study is that Bandura's (1977) SLT can serve as a theoretical framework from which to describe the influence of on-farm educational events on participants' perceptions of agriculture. This study concluded that participants with greater prior visits to a dairy farm, or those who were more familiar with dairy farms, had more positive impressions and higher pre-trust in dairy farms and farmers. Additionally, Bandura's (1978) model of reciprocal determinism

explains how an individual's knowledge and experience influences their perceptions and behavior. Therefore, Bandura's SLT explains why individuals with more knowledge and experience with modern dairy farms had more positive impressions of dairy farms and farmers than individuals with less previous experience.

Bandura's SLT also explains how Agri-Palooza was able to provide environmental stimuli that influenced participants' cognitive factors such as knowledge, attitudes, and expectations. Bandura (1978) explains how learning occurs through verbal instruction, modeling, and observation. Agri-Palooza participants received verbal instruction about modern dairy farming practices from farmers and industry professionals. Additionally, participants observed modern dairy farming practices on their guided tour and during live milking demonstrations. All of these environmental factors played a role in shaping participants' knowledge, attitudes, and expectations which, in turn, influenced their perceptions. Therefore, Bandura's SLT explains how Agri-Palooza was able to strengthen participants' trust in farmers. Thus, Bandura's SLT can continue to serve as a theoretical framework for further research on on-farm educational events.

## 5.4 Recommendations

### 5.4.1 Recommendations for future research

Even though several important findings were revealed, this study's limitations led to recommendations for future research. Recommendations include alternative research designs, alternative data collection methods, and replication of the study in different contexts. Replication studies should consider using a 7- or 10-point Likert scale

in the survey instrument. This would allow for a higher degree of measurement precision when assessing participants' trust and agreement. Furthermore, a larger scale would be less restrictive when measuring participant trust change. Additionally, further studies should incorporate an equal number of positive and negative declarative statements in Likert item questions. Creating a Likert scale with a balanced number of positively and negatively worded statements would solicit more definitive responses from participants.

It is suggested that replication of the study increase the number of participants that are randomly sampled from a population. This study had high risk for selection bias since the sample was not random. The selection of a random sample with expanded demographics and experience variability would also be favorable. A simple random sampling method could be executed by collecting participant contact information at an event registration table, and using a table of random numbers to select participants to mail or email surveys immediately following the event. Moreover, since much of the literature is focused on on-farm dairy educational events, it is recommended that future research explore the influence of educational events held on sites of production agriculture other than dairy farms (e.g., crop farm, beef cattle farm).

It is also recommended that future research about on-farm educational events gather more explanatory descriptive data about participants' backgrounds. Specifically, questions to determine what kinds of agriculture participants are involved in (e.g., animal production, crop production, agricultural sales, etc.), and their previous exposure to agriculture. These details would provide better insight into who the positive shifts in trust occur in and if any commonalities lie between those with the greatest and least pre-

trust and trust level change.

### 5.4.2 Recommendations for agriculture

Based on conclusions from this study, it is recommended that the agriculture industry consider the role of on-farm educational events in educating and connecting the public with modern agriculture. Not only have these events been found influential at improving participants' trust in dairy farmers and positive perceptions of the dairy industry, but also participants reported the events to be worthwhile and a good way to connect the public with modern food production. Farmers who may not own a large-scale animal operation, but do have an agricultural entertainment component to their farm (e.g., pumpkin patch, corn maze, or pick-your-own fruit or vegetable farm), can also play a role in increasing visitors' positive perceptions of agriculture. These agri-tourist venues should consider hosting on-farm educational events, especially since they are already open to the pubic and typically attract families. By educating visitors on the production practices associated with what is grown or produced at the farms, they can help influence participants' trust in farmers, and thus their positive perceptions of the agriculture industry.

If the underlying goal of on-farm educational events is to improve participants' positive perceptions of agriculture, then event organizers should focus on promoting the events to people whose current perceptions of agriculture are less likely to be positive. Based on this study's conclusion that Agri-Palooza had a more positive impact on participants who had not been to a dairy farm before, it is recommended to market on-farm dairy educational events toward people who have less exposure to and experience

with dairy farming. For example, if there are any large cities within a 100-mile radius, or a half-day's driving distance from an event, then the residents of those larger cities should be targeted. Residents of larger cities, not near farms, have a greater potential to have less experience with dairy farms than those living outside of large cities and near farms.

### 5.4.3 Recommendations for land-grant institutions

Agricultural extension services should also consider using on-farm educational events to connect the public with modern agriculture. It is recommended that extension services tailor on-farm educational events to meet the interests and concerns of the public in their specific region. On-farm educational events should continue to use knowledgeable agriculture industry professionals as tour guides and staff. Events should incorporate exhibits and activities for all ages that appeal to participants' five senses, as this has been proven to increase learning and retention (Beard & Wilson, 2006, p. 157).

Land-grant institutions and agricultural extension services who have experience with these type of events should consider creating a best practices handbook for potential host farms. There is little literature available for farmers on the best practices for hosting on-farm educational events. Thus, creating event handbooks geared toward industry specific on-farm events, would provide farmers with the guidelines and resources on how to do so. The handbooks should include content on biosecurity and risk management procedures, budgeting, legal considerations, and activity and exhibition ideas. One such handbook has been developed by MSUE with their Breakfast on the Farm program. They should also incorporate literature and suggestions on how to

promote agricultural literacy among adult and young audiences.

### 5.4.4 Recommendations for non-land-grant institutions

Non-land-grant universities with agricultural programs can also play a role in further developing on-farm educational events. Students from these schools could participate in trial events to assess different event management strategies. Trial run-throughs would provide opportunity to gauge how an event would "flow" with a big group of people, and for risk assessment. Additionally, students from agriculture programs could also serve as event staff and volunteers for on-farm educational events. In the case that farmers have trouble staffing the necessary number of industry personal for an event, qualified agriculture majors would be a valuable resource. This would not only help event organizers, but also provide agriculture students with agricultural communications, leadership, and education experience.

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# APPENDIX A

## Agri-Palooza Questionnaire – 2015

**1.** **In the past 20 years, how many times have you visited a working dairy farm prior to this visit?**

☐ First visit ☐ 1-2 ☐ 3-5 ☐ 6-10 ☐ > 10 times

**2.** **What is your age?** *(Please check one box.)*

☐ 18-20 ☐ 21-35 ☐ 36-50 ☐ 51-65 ☐ > 65

**3.** **What is your gender?** ☐ Male ☐ Female

**4.** **What is your 5 digit zip code?** _____

**5.** **How many previous Agri-Palooza events have you attended?** ☐ 0 -This is my 1st; ☐ 1; ☐ 2+;

**6.** **Did you participate in the guided wagon tour of the dairy farm?** ☐ Yes ☐ No

**7.** **Why did you attend the Agri-Palooza event today?** (Please check ALL that apply).

| | | |
|---|---|---|
| ☐ To bring my kids | ☐ To bring grand-kids | ☐ To bring friends |
| ☐ To see a working dairy farm | ☐ Concern for food production methods | ☐ To support agriculture |
| ☐ Concern about environmental impacts | ☐ Learn how agricultural food products are produced | ☐ Concern for animal welfare |

**8.** **Please describe your background by checking all that apply**

| | | |
|---|---|---|
| ☐ Grew up near a farm<br>☐ Grew up on a farm | ☐ Live near a farm<br>☐ Live on a farm | ☐ I have relatives or friends who owned a dairy farm in the past 20 years |
| ☐ Work in an agriculture related job<br>☐ Work in a non-agriculture job | ☐ A working mom with kids at home<br>☐ A stay at home parent | ☐ Retired<br>☐ Not working or unemployed |
| ☐ I am a dairy farm owner/operator, family member, or employee | ☐ I am a crop/ livestock (other than dairy) farm owner/operator, family member, or employee | |

**9.** The following topics were covered during your farm visit today. **Please indicate your general level of trust BEFORE and AFTER your visit.** *(Mark only one box for before and one box for after for each statement)*

| My level of trust that dairy farmers will do the right thing with regard to: | **BEFORE** *YOUR VISIT* Very Low 1 | 2 | 3 | 4 | Very High 5 | **AFTER** *YOUR VISIT* Very Low 1 | 2 | 3 | 4 | Very High 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| a. Caring for the environment | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. Caring for food-producing animals | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. Safe-guarding milk | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. Safe-guarding agricultural products (other than milk) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. Providing good housing for dairy animals | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**TURN OVER PLEASE**

**10.** **Please indicate how strongly you agree to the following statements.** *(Mark only one box for each statement)*

| | Strongly Disagree 1 | 2 | 3 | 4 | Strongly Agree 5 | N/A |
|---|---|---|---|---|---|---|
| a. My visit today has increased my confidence in New York dairy products- *Mark N/A if you are already very confident in New York dairy products.* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| b. My visit today has increased my confidence in New York agricultural food products (other than milk)- *Mark N/A if you are already very confident in New York agricultural food products.* | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| c. Agri-Palooza is a good way to connect the public with modern food production | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| d. I have a better understanding of modern dairy production. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| e. My general impression about modern dairy farming has improved. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

**11.** Race/ethnic Information: ☐-White/Caucasian; ☐-Black/African-Am; ☐-Hispanic/Latino (All Races); ☐-Asian; ☐-Am Indian/Alaska Native; ☐-Native Hawaiian/Pacific Islander; ☐-Multi-racial; ☐-Other_____

**12.** **Your comments:** _____

_____

_____

Thank you for taking the time to complete this survey. We appreciate your feedback and hope you enjoyed Agri-Palooza 2015!

Make sure to return this survey to research personnel before you leave.

# APPENDIX B

Agri-Palooza 2015 Recruitment Script

Hi! My name is _____ and I am helping with a research study being conducted by a Texas A&M University student researcher. I am looking for Agri-Palooza visitors to participate in a research study to learn more about the impact Agri-Palooza has on its visitors and their views about agriculture.

Would you be interested in completing a one-page survey that should only take about 5 to 10 minutes to complete? By participating in the survey you can be entered into a drawing to win a $150 Visa gift card.

**If Yes**- Ask if they are over the age of 18.

> **If over 18**- Instruct the individual to read over the study consent form. If they would like to participate in then study then they should sign the consent form and begin the survey. Make sure they understand that if they would like to be entered into the drawing they must provide their email and zip code at the end of the consent form in the designated space. Tell them that when they are finished they must return the survey to you, or another survey distributor. Remind them that their survey must be turned in before they leave the event grounds.
>
> **If younger than 18**- Thank them for their willingness to participate but explain they must be over the age of 18. Thank them for coming to Agri-Palooza.

**If No**- Okay, thank you for coming out to this year's Agri-Palooza! We hope to see you next year!

# APPENDIX C

Impact of Agri-Palooza on Participant Perceptions of Agriculture:

**You are invited to take part in a research study being conducted by Marie Gowan, a researcher from Texas A&M University. The information in this form is provided to help you decide whether or not to take part. If you decide to take part in the study, you will be asked to sign this consent form. If you decide you do not want to participate, there will be no penalty to you, and you will not lose any benefits you normally would have.**

**Why Is This Study Being Done?**
The purpose of this study is to learn more about how Agri-Palooza connects the public with agriculture.

**Why Am I Being Asked To Be In This Study?**
You are being asked to be in this study because you have participated in Agri-
Palooza and your feedback will help us learn more about how Agri-Palooza impacts visitors.

**How Many People Will Be Asked To Be In This Study?**
300 people will be invited to participate in this study.

**What Are the Alternatives to being in this study?**
The alternative to being in the study is not to participate.

**What Will I Be Asked To Do In This Study?**
You will be asked to complete a one-page (front and back) questionnaire. Your participation in this study will only last the length of time it takes to complete the questionnaire, about 5-10 minutes.

**Are There Any Risks To Me?**
The things that you will be doing are no more than risks you would come across in everyday life. Some survey questions may be uncomfortable for certain individuals.

**Will There Be Any Costs To Me?**
Aside from your time, there are no costs for taking part in the study.

If you suffer any injury as a result of taking part in this research study, please understand that nothing has been arranged to provide free treatment of the injury or any other type of payment. However, all needed facilities, emergency treatment and professional services will be available to you, just as they are to the community in general. You should report any injury to Marie Gowan at 972-849-0912. You will not give up any of your legal rights by signing this consent form.

**Will I Be Paid To Be In This Study?**
You will not be paid for being in this study, but by completing the survey you will be eligible to win a $150 Visa gift card.

**Will Information From This Study Be Kept Private?**
The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only the principal researcher, Marie Gowan, will have access to the records. This consent form will be filed securely in an official area.

People who have access to your information include the Principal Investigator and research study personnel. Representatives of regulatory agencies such as the Office of Human Research Protections (OHRP) and entities such as the Texas A&M University Human Subjects Protection Program may access your records to make sure the study is being run correctly and that information is collected properly.

Information about you and related to this study will be kept confidential to the extent permitted or required by law.

**Who may I Contact for More Information?**
You may contact the Principal Investigator, Marie Gowan, to tell her about a concern or complaint about this research at 972-849-0912 or Mgowan@tamu.edu. You may also contact the Protocol Director, Dr. Tracy Rutherford at 979-458-2744
or trutherford@tamu.edu
.

For questions about your rights as a research participant, to provide input regarding research, or if you have questions, complaints, or concerns about the research, you may call the Texas A&M University Human Subjects Protection Program office by phone at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu.

**What if I Change My Mind About Participating?**
This research is voluntary and you have the choice whether or not to be in this research study. You may decide to not begin or to stop participating at any time. If you choose not to be in this study or stop being in the study, there will be no negative consequences.

**STATEMENT OF CONSENT**
**I agree to be in this study and know that I am not giving up any legal rights by signing this form. The procedures, risks, and benefits have been explained to me, and my questions have been answered. I know that new information about this research study will be provided to me as it becomes available and that the researcher will tell me if I must be removed from the study. I can ask more questions if I want. A copy of this entire consent form will be given to me.**

_____ _____
Participant's Signature Date

_____ _____
Printed Name Date

**INVESTIGATOR'S AFFIDAVIT**:
Either I have or my agent has carefully explained to the participant the nature of the above project. I hereby certify that to the best of my knowledge the person who signed this consent form was informed of the nature, demands, benefits, and risks involved in his/her participation.

_____ _____
Signature of Presenter Date

_____ _____
Printed Name Date

By completing and returning the one-page survey you will be eligible to win a $150 Visa gift card**.** If you would like to be entered into the drawing please provide your zip code and email address below. Odds of winning are equal for each participant who returns a completed survey. Your email will only be used to contact you if you are the winner.

_____ _____
Zip Code Email address